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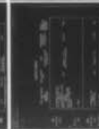
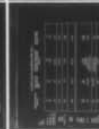
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SALT, THE SOVIET APPROACH TO STRATEGIC SUPERIORITY.(U)  
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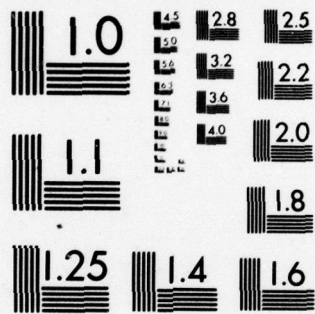
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STUDENT RESEARCH REPORT

CPT GEORGE H. SELDEN  
SALT  
THE SOVIET APPROACH  
TO STRATEGIC SUPERIORITY  
- 1978 -

GARMISCH, GERMANY

APO NEW YORK 09053

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THE SOVIET APPROACH  
TO STRATEGIC SUPERIORITY.

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## FOREWORD

This research project represents fulfillment of a student requirement for successful completion of the overseas phase of training of the Department of the Army's Foreign Area Officer Program (Russian).

Only unclassified sources are used in producing the research paper. The opinions, value judgements and conclusions expressed are those of the author and in no way reflect official policy of the United States Government; Department of Defense; Department of the Army; Office of the Assistant Chief of Staff of Intelligence; or the United States Army Institute for Advanced Russian and East European Studies.

Interested readers are invited to send their comments to the Commander of the Institute.

  
ROLAND LAJORIE  
LTC, MI  
Commander

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## SUMMARY

✓ In this paper, the author first presents selected passages from open Soviet literature dealing with the concepts of war as a continuation of policy, nuclear war as it affects the character of war in general, the advisability of striving for strategic superiority and the utility of a war survival strategy. He then examines the capabilities of the Soviet Union not only to fight a strategic nuclear war, but also to win such a war in view of the restrictions placed on both the US and the USSR by existing strategic arms limitation agreements. The author concludes that through the effective use of the SALT process, the Soviets have been able to achieve rough strategic equivalence with the United States, i.e., a war-fighting capability, while demonstrating the potential to deploy overwhelmingly superior strategic forces in order to exploit whatever opportunities the attainment of that war-winning capability might offer.

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## INTRODUCTION

During the last two decades, defense planners in the United States developed the philosophy that the use of nuclear weapons, on a strategic level, was unthinkable because of their inherent destructive capability and that any development which made their use more acceptable would ultimately facilitate their use in combat. These same defense planners apparently assumed that their counterparts in the Soviet Union had reached a similar conclusion and thus, US strategic doctrine began to evolve with the deterrence of the use of strategic nuclear weapons as its focal point, and talks on the limitation of strategic arms as the means through which to ensure the nuclear parity necessary for deterrence. However, open source Soviet literature seems to indicate that strategic planners in the Soviet Union reached considerably different conclusions, i.e., war with the capitalists is inevitable, and that particular war is very likely to be a strategic nuclear one. In which case, they, the Soviets, must prepare for this inevitability by assuming that the war will in fact be nuclear, whether by design or through escalation, and by planning to fight and survive that nuclear war rather than relying on deterrence alone to prevent it.

Soviet leaders seem to have rejected the idea of strategic



parity, as it pertains to the concept of mutual limitations on strategic systems, in order to hold entire nations as nuclear hostages for the sake of deterrence, and appear to be structuring their forces not merely for fighting and surviving a nuclear war.

Based on the number of launch and re-entry vehicles in the arsenals of both the US and the USSR, there is the belief on either side that the addition of more warheads and missiles could not tip the strategic balance one way or the other unless one of the principals was to opt out of the game altogether, either through unilateral disarmament or failure to keep up. Such additions would do little towards the establishment of a war-winning capability for either side. The unilateral addition of significant numbers of strategic delivery and re-entry vehicles, however, could appreciably change the complexion of the strategic balance, so that the gain-versus-risk threshold for first use of nuclear weapons might be significantly altered.

When dealing with the Soviet Union, one of the most difficult problems is to translate capabilities into intentions. The most obvious statement that can be made about Soviet society,



unlike Western society is that it is not open to public scrutiny. There are no annual documents issued by the government of the USSR which provides an expression of official Soviet views. It is, therefore, extremely difficult, and hazardous to say the least, to call upon Soviet open sources to substantiate any analysis of intentions. The open press can be used, however, to establish those trends in the strategic thought process which have been selected for consumption by a specialized readership within the USSR. Therefore, I have extracted from the open literature what I believe to be examples of Soviet declaratory policy with regard to their concepts of war, nuclear war, the attainment of strategic superiority and war survivability. With this information in hand, I have assessed the Soviet capabilities, negotiated through the Strategic Arms Limitation Talks (SALT), in order to determine whether the Soviets have adhered to this declaratory policy and have attempted to negotiate strategic superiority.

This is a far cry from predicting Soviet intentions, but if a doctrinal line can be established through this process, then perhaps some conclusions can be drawn with regard to the Soviet approach to SALT and what possible intentions these SALT - given capabilities can support.

When working with Soviet open source material, there has been a tendency to interpret what the Soviets say in terms which we in the West can understand, i.e., to accept Westernized translations of Soviet terminology. Throughout this paper, I have attempted to use Soviet explanations of the terms which they have used rather than impart my own interpretation. Whereas, in the Western press the Soviets have been accused of inconsistent behavior and violations of the spirit of one or another principle, I have found an historical consistency, in the open literature, with regard to those areas which I intend to discuss. It is not my intention to portray the Soviet Union as completely pure in terms of motives, simply consistent.

Classic examples of the above-mentioned misinterpretations involve the concepts of detente and peaceful coexistence, words which have been misconstrued to mean something other than the Soviets publically state that they mean. When former President Nixon and Dr. Henry Kissinger attempted to shift from the misleading term detente to a more accurate translation of the Russian phrase "razriadka napriazhennosti", literally a lessening of tension, they were met with a great deal of criticism pointing out that they were playing a word game and that detente by any other name was still detente. To illustrate the fundamental difference between our perceptions of this concept, let



us examine what the Soviet leadership has said and still says about "razriadka naprazhennosti".

General Secretary Brezhnev, in an effort to counter the impression that detente was a Soviet ideological concession, stated in his report to the 25th Congress of the CPSU, that "...the relaxation does not in the slightest abolish, and cannot abolish or alter, the laws of class struggle."<sup>1</sup> This was not an isolated comment made by the General Secretary, but rather the continuation of a theme which had been prevalent from the very beginning of the period of detente between the US and the USSR. There is a copious Soviet literature which deals with the question of why the Soviet Union is interested in any sort of lessening of tensions with the West<sup>2</sup> and just what it means in terms of Marxist-Leninist ideology. Much of the argument follows the standard Leninist line that the contradictions of capitalism must be exploited; however, in 1972, after the signing of the SALT I agreement, Secretary Brezhnev emphasized that:

The Communist Party of the Soviet Union (CPSU) always held and now holds that the class struggle between the two systems--the capitalist and the socialist--will continue. It cannot be otherwise, because the world outlook and class aims of socialism and capitalism are opposed and irreconcilable.<sup>3</sup>

It would appear; however, that for the time being, the Soviets are no longer trying to settle the struggle between

capitalism and socialism through direct military confrontation, but rather are shifting the competition to a different arena, In fact, some Soviet writers feel that:

War can and must be banned as a means of resolving international disputes. But we must not 'ban' civil or national liberation wars. We must not 'ban' uprisings and we by no means 'ban' revolutionary mass movements aimed at changing the political and social status quo.<sup>4</sup>

In place of war, the concept of peaceful coexistence has been developed in order to further the aims and goals of socialism. Unlike the Western perception of the phrase, in the Soviet view peaceful coexistence "... neither means nor could mean any kind of status quo between socialism and capitalism".<sup>5</sup> Quite the contrary is true. "Peaceful coexistence (is merely) a special form of class struggle in the international arena ...(whose) strategic purpose (is to) assure favorable conditions for the world wide victory of socialism".<sup>6</sup> Simply stated,

Peaceful coexistence is intended to create a world order under which the inevitable social changes within states would not result in international conflicts, clashes and devastating war. This is the only true meaning of detente.<sup>7</sup>

If this is truly the only meaning of detente, then how should we regard such bi-lateral forums as the Strategic Arms Limitation Talks? Both the Soviet Union and the United States have on numerous occasions stated that detente and SALT are closely related. If the US position in these talks has been the establishment of nuclear parity, or perhaps more accurately the establishment of mutual nuclear vulnerability, in order to ensure that neither side achieves a war-winning capability.



then is it possible to conclude from the above references that the Soviet position at SALT has been similar? If this were true, then we would have to look for certain indications that the Soviets were striving only for nuclear parity, or a war-fighting capability, as opposed to strategic superiority, and a war-winning capability. There would also have to be some evidence that within Soviet military doctrine, there was some sympathy for the US position that nuclear war is no longer viable in terms of its use on a strategic level, or that nuclear superiority was not achievable.

There was a time when it did appear that certain influential Soviet writers and defense theoreticians did believe that nuclear war and nuclear superiority, in the sense of achieving a war-winning, first strike capability, was no longer viable. Raymond L. Garthoff, in defense of his article, "SALT and the Soviet Military", published in Problems of Communism, January-February 1975, quotes from the limited-distribution Soviet General Staff journal Voyennaia Mysl', No. 5, 1969,<sup>8</sup> that "With the existing level of development of nuclear missile weapons ... it is impossible in practice to destroy them completely, and consequently it is also impossible to prevent an annihilating retaliatory strike". The other authors whom Mr. Garthoff cites provide additional reasons why it would be difficult to achieve strategic superiority. In short, they are:

1--the difficulties involved in achieving a unilateral capability in terms of antiballistic missile defense,  
2--the fact that the capabilities for mutual destruction are relatively equal, and  
3--the inevitability of an annihilating retaliatory strike by the opposition with its remaining missile forces not destroyed during the first strike.

Since 1969, when the original article was published, a debate has been conducted in the open Soviet literature with regard to not only the question of whether a first strike capability is obtainable or desireable, but also whether the fundamental Marxist-Leninist tenet that war is a continuation of politics by violent means remains valid. In 1963, Marshal V. D. Sokolovskii in his authoritative Soviet Military Strategy, which has survived three "revisions", since then, declared that the principle of war as a continuation of politics was indeed still valid and, further, that "...the essential nature of war ...does not change with changing technology and armaments."<sup>9</sup> Instead of feeling that nuclear missiles have fundamentally changed the principles of modern warfare to the extent that it is no longer a viable concept, some Soviet theoreticians conclude that:

Nuclear missiles have altered the relationship (not the principle) of tactical, operational, and strategic acts of the armed conflict. If in the past, the strategic end-result was secured by a succession of sequential, most often long-term efforts and comprised the sum of



tactical and operational successes, strategy being able to realize its intentions only with the assistance of operational art and tactics, then today, by means of powerful nuclear strikes, strategy can obtain its objectives directly.<sup>10</sup>

On the other side of the debate, there was the belief that even though strategic objectives can be obtained directly through the use of nuclear weapons, the inevitable devastation caused by those same nuclear weapons precludes their use, and therefore, eliminates strategic nuclear war as a viable option open to political leaderships.<sup>11</sup> This is one of the underlying principles for the US "strategy" of mutually assured destruction (MAD). Other Soviets, at least in print, do not subscribe to the US philosophy.<sup>12</sup> Even though they realize the destructive nature of nuclear war, they still feel that "there is a profound erroneousness and harm in the disorienting claims that there will be no victor in a thermonuclear war."<sup>13</sup> Further:

The premise of Marxism-Leninism on war as a continuation of politics...remains true in an atmosphere of fundamental changes in military matters. The attempt of certain bourgeois ideologists to prove that nuclear missile weapons leave war outside the framework of policy and that nuclear war moves beyond the control of policy and does not constitute its continuation is theoretically incorrect and politically reactionary.<sup>14</sup>

The debate over the validity of this precept seemed to come to an end, along with apparent Soviet military opposition to the continuation of the SALT process, when, in 1974, Marshal Kulikov, then Chief of the Soviet General Staff, asserted that "military strategy does not stand above policy, but rather

strategy comes out of the policy of the Soviet state, as defined by the leaders of the CPSU."<sup>15</sup> Up until that time there had been some question as to how much influence the military would have in determining the course of Soviet policy. The question seemed to be whether policy determined military strategy, or military strategy, in some very specific areas such as SALT, could determine policy. Marshal Kulikov's statement that military strategy comes from the policies established by the political leadership of the country is generally accepted in the West as the military's concession to the leadership on the issue of continuing the limitation of strategic arms and thus the limitation of counter-force capability. In the same article, however, Marshal Kulikov also states that the principle of armed conflict, which is a much broader term in the Soviet context and includes wars of all types, is still viable as a logical extension or continuation of politics. There appears to be a contradiction here, i.e., if wars are still viable, then one must be prepared to fight them, not limit the capability to do so.

Soviet nuclear strategy is counterforce oriented. This means that at least initially, Soviet strategic forces target for destruction not the enemy's cities, but his military forces and the associated command and control facilities that accompany those forces, as well as, the industrial and agricultural base



designed to support the country in war, Marshal Grechko in 1971 stated that:

The Strategic Rocket Forces, which constitute the basis of the military might of our armed forces, are designed to annihilate the means of the enemy's nuclear attack, large groupings of his armies, and his military bases; to destroy his military industries, to disorganize the political and military administration of the aggressor as well as his rear and transport.<sup>16</sup>

The main thrust of this strategy is not simply to undermine an enemy's will to resist, but to destroy his capability to do so.

World War II provided the Soviets with many lessons, not the least of which was that counter-value bombing of cities did little in the way of defeating an enemy, but counter-force destruction of his armies was the decisive element in total victory. Marshal Sokolovskii in the third edition of Soviet Military Strategy emphasized the fact that:

It was not so much the economic struggle and economic exhaustion that were the causes for the defeat of Hitler's Germany, but rather the armed conflict and the defeat of his armed forces.<sup>17</sup>

Existing Soviet military doctrine has not deviated from this counter-force principle since the beginning of the SALT process. Furthermore, it seems unlikely that any agreement designed to limit strategic offensive capabilities would be compatible with such a doctrine. I would suggest that Marshal

Kulikov's statement regarding the viability of armed conflict, in light of an apparently unchanged military doctrine, supports the theory that the Soviet leadership's perception of SALT is not in the least incompatible with its counter-force oriented nuclear strategy, and therefore, must be considered to be in complete contradiction with the perceived US goals.

Does this mean that the Soviet Union is planning a preemptive first strike against the US? I think not, at least not at this time. What it does appear to mean, however, is that the Soviets have not forsaken the utility of the threat of nuclear war in power politics when the adversary may not have the strategic capability to call the hand. They have not forgotten the lessons of the Cuban missile crisis and appear to be structuring their forces in order to prevent the recurrence of a similar situation. Perceived strategic superiority was the key to success in Cuba for the United States and it appears to be the solution which the Soviets have decided will work in the future.

The Soviets believe that the correlation of forces in the world is shifting in favor of the socialist camp.<sup>18</sup> They publicly state that in the late 1960's, the US was finally "forced" to accept the fact of relative Soviet strategic pari-



ty and thus the United States could no longer deal with the USSR from a position of strength.<sup>19</sup> They claim that the "...solution of war and peace now depends not on the arbitrary rule of imperialist circles, but primarily on the new correlation of forces between the imperialist and the socialists."<sup>20</sup> In simpler terms, this means that the US can no longer use its overwhelming military, economic and political position in the world as a means of opposing the spread of world communism.

Strategic, as well as conventional, superiority has long been a goal of the Soviet leadership, both civilian and military. Marshal Sokolovskii clearly supported this idea when he stated that the most important task facing the Soviet Union was the establishment of nuclear superiority over the enemy.<sup>21</sup> Even with the 1972 SALT Agreement, this should not have come as a surprise, for as former Minister of Defense Grechko stated in 1975, "We have never concealed and do not conceal the fundamental tenets of our military doctrine."<sup>22</sup> It is becoming increasingly more evident that the Soviet Union is using the SALT forum as a means by which to facilitate the achievement of strategic nuclear superiority for whatever reason.

Raymond Garthoff, in support of his argument that the Soviet military has concluded strategic superiority, in the sense of achieving a war-winning capability, is not possible for either side in contemporary conditions, cites authors who

offer the three main points listed above as obstacles to the achievement of strategic superiority. I would suggest that these authors have listed these not only as obstacles, but also have presented them as steps in a well-defined plan for the achievement first of strategic parity and ultimately strategic superiority through the negotiating process. If they are in fact obstacles to the achievement of strategic superiority and the Soviet Union was genuinely interested in some sort of nuclear parity, then we should expect to see no particular effort on the part of the Soviets toward overcoming these strategic barriers. An examination of Soviet response to these obstacles over the past nine years may provide some insight concerning their approach toward limitations on strategic arms.

Mr. Garthoff cites Lt. General V. I. Zemskoy, Chief Editor of Voyennaya Mysl as stating that "... disruption of the 'nuclear balance'...is possible in the case of...the creation by one of the sides of highly effective means of anti-ballistic defense while the other side lags considerably in the solution of these tasks."<sup>23</sup> By the late '60s, which not coincidentally was when these articles were published, the United States was in possession of a very promising ABM technology, Safeguard. Plans for deployment were already proceeding and the first site at Grand Forks, North Dakota, was under construction. The Soviets, on the other hand, were



not in the same position. Despite US intelligence community claims at the time that the Tallin surface-to-air missile system, which surrounded Moscow, had been upgraded to the status of an ABM system, it can be argued that the Soviets were still behind the US in terms of the technology required in order to have a "highly effective" ABM defense against MIRVed re-entry vehicles. The simplest solution for the Soviets was to limit further US development of Safeguard.

The provisions of the ABM Treaty of 1972 are a matter of record. Although both sides were allowed to deploy two ABM sites, each with 100 defensive launchers, the United States opted not to deploy either the National Command Authority (NCA) site around Washington or the ICBM defensive site at Grand Forks. The Soviet Union, likewise, in 1974 rejected its option to build a second ABM site, but retained its NCA defense option around Moscow. Interestingly enough, the Moscow NCA defense contains numerous ICBM launchers within its protective footprint, in fact far more than the US had originally planned to defend with its one system. There are no ICBM launchers around Washington.

Since the ABM Treaty was signed in 1972, for all intents and purposes, the United States has given up research and development for ballistic missile defense. It is estimated

that should we choose to re-open the production lines for the Sprint and Spartan missiles which comprised the Safeguard system, at a minimum it would require three years. The Soviet Union has not followed the same path. Barely four months after the signing of the ABM Treaty in Moscow, Defense Minister Grechko commented that the ABM Treaty had not limited R&D "...directed toward resolving the problems of defense of the country against nuclear missile attack."<sup>24</sup> The Soviet ABM program has not abated in the least. Over the last six years, the Soviets have been engaged in an active test flight program for ABM. The Standing Consultative Committee (SCC) for SALT has been occupied with the question of whether or not this ongoing program constitutes a violation of the treaty itself. Highly placed sources on the US SALT delegation, who wish to remain anonymous, have stated that the Soviet ABM test program has been pushed to the very limits of the ABM Treaty and has been singularly the most worrisome problem with which the SCC has been forced to cope.

The effect of the Soviet testing program has been to create the belief within the US defense community that the Soviet Union, in a very short period of time, could deploy a national ABM system capable of handling at least a portion of a US retaliatory strike against the Soviet homeland. Because the US ABM system was designed against the Soviet ICBM

threat at the time, i.e., against non-MIRVed ICBM's, without substantial research now in the field of midcourse intercept of ballistic missiles, the US would lag considerably, perhaps fatally, in the solution to these problems should the ABM Treaty be abrogated or simply not renewed.

The remaining two obstacles to achieving strategic superiority will be dealt with presently in a manner which reflects their mutual dependence. For now, suffice it to say that by reducing the vulnerability of one nation to an annihilating retaliatory strike by another, in effect, the capabilities for mutual destruction have been rendered no longer equal. With regard to the inevitability of an annihilating retaliatory strike against an aggressor, the Soviets appear to be establishing the means by which to insure that such a strike is neither inevitable nor annihilating. The logical question would be how is this possible when, theoretically, the United States possesses enough nuclear throw-weight to destroy the Soviet Union several times over? I would suggest that this is not the case.

On January 22, 1968, in a statement before the Senate Armed Services Committee on the FY 1969-1973 defense program and the 1969 defense budget, former Secretary of Defense Robert McNamara outlined what has come to be known as the



US strategy of assured destruction. In his statement, Mr. McNamara said that the United States should have an assured capability to destroy one-fifth to one-fourth of the Soviet population and one-half of the Soviet industrial capacity.<sup>25</sup> Current US strategic forces were designed to accomplish that mission and theoretically possess the destructive power to do so. It was believed that this assured capability for destruction of Soviet counter-value targets would be sufficient to deter the Soviet Union.

The Soviet view of deterrence does not coincide with this doctrine. Basically, they believe that the better prepared the USSR is to wage war, the more credible their deterrence.<sup>26</sup> This is the main reason why the Soviets reject a concept of security based on a balance of assured destruction. Soviet spokesmen claim that such a balance is inherently unstable because of constant improvements in weapons technology, the possibility of accidental escalation of a local war, or of political changes in the capitalist countries which might impel new leaders to risk nuclear war with the Soviet Union.<sup>27</sup> Further, some Soviet writers claim that by advocating a policy of assured destruction, the United States is seeking to hamstring Soviet foreign policy in order to deprive the USSR of the political use of its military power, and to make Moscow vulnerable to nuclear blackmail.<sup>28</sup>

After the signing of the SALT I Treaty in 1972, the US intelligence community began reporting Soviet progress in the area of missile testing that looked as if they were working on the development of a counter-force capability in order to eliminate the US land-based ICBM force. Those developments will be discussed shortly, but in the meantime, the potential of those tests forced defense planners in the US to consider that if the Soviets were contemplating knocking out the US ICBM force in the first phase of a nuclear conflict, then an American President should not be left with only the option of threatened retaliation against Soviet cities, the MAD doctrine, but rather, he should have the counterforce option of depriving the Soviets of their ICBM forces also, thus removing the temptation for the Soviets to call on their counterforce capability. In March of 1974, this flexibility of response became known as the Schlesinger Doctrine.

At that time, the strategic proposals set forth by Schlesinger involved three separate sets of questions: 1--changes in targeting doctrine: 2--the issue of the sizes of strategic forces; and 3--prudent hedges against any Soviet attempt to achieve exploitable superiority.<sup>29</sup>

The rationale for a change in the strategic nuclear targeting doctrine was to reinforce deterrence <sup>across</sup> a wide spectrum of situations by having sufficient options open to an American President between massive response and doing



nothing. Furthermore, should deterrence fail, provide the President with the ability to limit the chances of uncontrolled escalation by being able to respond selectively before being forced to respond massively.<sup>30</sup> Schlesinger stated that this change in the targeting doctrine provided for preplanned small strikes against a variety of small targets, including counter-force military targets, with the option of limiting such strikes to only a few weapons.<sup>31</sup>

To the argument that such a doctrine would tend to make the use of nuclear weapons more acceptable, Dr. Schlesinger countered that deterrence "based upon a non-implementable threat, such as both sides going after each other's cities," was not as good as 'deterrence across the entire spectrum of risk.'<sup>32</sup> In other words, "one has got to have an implementable threat."<sup>33</sup>

In terms of the size of the strategic nuclear force, the governing criterion would be "essential equivalence" with the Soviet Union and the level at which the forces of the United States would be fixed, would be determined "by the actions of the Soviet Union."<sup>34</sup> Dr. Schlesinger felt that the growth of Soviet strategic power had created a situation in which the issue facing the United States was how to interpret and respond to a growing range of potential Soviet initiatives such as the deployment of large numbers of MIRVs in an attempt to



exploit the asymmetries in ICBM-SLBM numbers and payload conceded to them in SALT I.<sup>35</sup> The Soviet Union was already numerically superior in virtually all of the criteria for comparing strategic forces, such as launchers, throwweight and megatonnage,<sup>36</sup> and in the context of force sizing, such a step as the MIRVing of ICBMs would eventually add the total number of warheads index to the list as well.

As a hedge against such an attempt by the Soviet Union to gain exploitable superiority, the Schlesinger proposal contained in addition to existing projects, such as the B-1 strategic bomber and the Trident ballistic missile submarine, a number of new research and development programs designed to preclude the achievement of that superiority by the Soviets. These included the development of the new Mark I2A warhead for the fleet of Minuteman ICBMs along with a new guidance system for those ICBMs which when finally deployed would enable a warhead nearly twice the size of the existing one to be dropped within 600 feet of its target--an improvement over the old system of roughly fifty percent.<sup>37</sup>

In addition to the Mark I2A, a new maneuverable warhead (MARV) was to be developed for possible retrofit into both ICBMs and SLBMs. It appears that this has been replaced by

the new mobile ICBM, the MX, which was designed to reduce the vulnerability of the land-based ICBMs while providing greater destructive capability, and to a certain extent, a greater counter-force capability. Even though the United States would have preferred that both sides avoid the acquisition of major counter-force capabilities, it was concerned by the momentum of Soviet weapons programs and by the prospect that the Soviet Union might attempt to exploit its superior throwweight potential.<sup>38</sup> The end result of putting its own matching counter-force measures into research and development, the United States was in effect telling the Soviet Union that it would not allow the USSR to develop a marked superiority to counter-force capabilities.<sup>39</sup>

What has been the effect of the changes in US strategic doctrine on the defense policy of the Soviet Union? The way in which the Soviet Union has handled the remaining two obstacles to the achievement of strategic superiority appears to indicate that the Soviets have reacted to counter that doctrine rather than subscribe to it.

In an effort to reduce the annihilating characteristics of a retaliatory strike in the event of a nuclear war, the Soviet Union has instituted a nation-wide program of civil defense. The viability of that program has been the subject of considerable debate in the US which has produced no definitive answer to the question as yet. Marshal V. I. Chuikov,

in his discussion of the role of civil defense in the event of a nuclear war, states that:

In our time, the defensive might of the state is determined not only by the readiness of the armed forces to wage war, but also by the ability to assure in the course of the war a level of industrial and agricultural production sufficient for its successful conduct.<sup>40</sup>

I will not attempt to develop a case for Soviet civil defense in this treatment, that has already been done in other sources.<sup>41</sup> Suffice it to say that the program does exist without any doubt. Unfortunately, little reliable information is available in open sources on stockpiles of agricultural reserves or hardening of industrial capability. In order to assess the true significance of the Soviet civil defense effort, it is necessary to look beyond the population survival programs and examine the extent to which the civil defense program encompasses all the aspects of system survival as outlined by Marshal Chuikov.

The Soviet leadership has long recognized that civil defense measures alone will not be sufficient to solve the problem of ensuring the viability of the Soviet state in the event of nuclear war. Instead, Soviet spokesmen link civil defense with the offensive operations of the Soviet Armed Forces which should ensure a considerable reduction of the destructive effects on our people of weapons of mass destruction.<sup>42</sup>

Can Soviet offensive operations support such a claim?



Perhaps we should look at the capabilities allowed the Soviet Union by the Strategic Arms Limitation Talks.

As Dr. Schlesinger pointed out in his testimony on the FY 75 defense budget, the SALT I accords allowed the Soviet Union a numerical advantage in, among other things, strategic launchers. The United States position was that one launcher equalled one missile. For verification purposes it was necessary to make this assumption and we felt relatively certain that this index of comparison would remain valid, at least for the five-year life of the treaty. At the time, SLBMs were the only strategic nuclear delivery means that employed a cold launch technology. The fact that this technology allowed the submarine to be reloaded carried little significance in terms of its effect on the relative strategic balance, so the index seemed relatively viable.

The Interim Agreement on Offensive Systems of 1972 allowed the USSR to deploy 1608 ICBMs and 950 SLBMs. The US, on the other hand, was allowed 1054 ICBMs and up to 710 SLBMs. By the October, 1977, expiration date of the treaty, those numbers would have equated to a sixty percent superiority for the Soviet Union in terms of fixed ICBM launchers<sup>43</sup> and up to at least one-third more operational SLBM launchers.<sup>44</sup> This advantage was theoretically offset by our manned bombers and technological lead in MIRVed missile systems.

The Soviets invariably claim that true equality warrants larger Soviet forces in compensation for geographic, strategic and technological asymmetries alleged to favor the US,<sup>45</sup> but one would hardly expect a US administration to support such a claim. Remarkably in July of 1972, Dr. Henry Kissinger stated that "because of the differences in geography and basing, it has been estimated that the Soviet Union requires three submarines for (every) two of ours to be able to keep an equal number on station."<sup>46</sup> If one remembers that at the time the US was genuinely interested in the achievement of parity by the Soviets, then such a remark is not so staggering. However, that argument tends to lose some of its validity as the ranges of Soviet SLBMs increase. It is now possible for Soviet submarines to sit in their home ports and strike the continental United States with the newly developed SS-N-8, which has a range in excess of 4,000 statute miles, or with the soon-to-be-deployed SS-NX-18, which has an expected range of about 5,000 statute miles.<sup>47</sup>

The range of the SS-N-8 came as a total surprise to Western intelligence analysts, who had originally estimated the range to be no more than 3,000 statute miles.<sup>48</sup> When fully deployed, the range of the SS-N-8 will allow the Soviet Union to have an asymmetrical amount of destructive power, in terms of SLBM launchers, within striking range of US targets.



This was not the only surprise to come out of SALT. The Ford-Brezhnev Vladivostok Agreement of 1974 was designed to provide a framework for a treaty in force until 1985 to replace the 1972 Interim Agreement which expired in October of last year. The Vladivostok Agreement was an attempt to create the essential equivalence of Dr. Schlesinger's flexible response doctrine by limiting the number of strategic launchers on both sides to 2400, including heavy strategic bombers, and the number of MIRV capable ICBM and SLBM launchers to 1320. Once again launchers--not missiles--was the index. Additionally under these guidelines, the Soviets would have been limited to 313 "heavy" missile systems, even though no agreed-upon definition existed for a "heavy" missile.

Originally, the United States had determined unilaterally that a Soviet "heavy" missile was any missile significantly heavier than the largest "light" operational Soviet ICBM. At the time, the largest "light" ICBM was the SS-11 with a displacement of 69 cubic meters. This meant that any missile with a volume greater than 70 cubic meters was to be considered "heavy". The United States negotiators were aware that the next generation of Soviet ICBM would be considerably larger than the systems they were designed to replace, and as such, could disrupt the principle of parity in SALT because of increased capability. The US was attempting to bring the SS-18 (the follow-on system to the "heavy" SS-9), the SS-17 and the



SS-19 within the operational framework of this definition.

Soviet ICBMs had traditionally been very large in terms of payload--the SS-9 for example carries one 25-megaton warhead--and as Dr. Schlesinger pointed out, the United States was concerned that with the Soviet deployment of its newly-acquired MIRV technology, these "heavier" missiles would begin to shift the indexes of strategic superiority even more dramatically in favor of the Soviets, specifically in terms of deliverable warheads and their destructive power.

When the deployment of the SS-17, -18 and -19 was begun between 1974 and 1975, all of these missile systems had displacements of 100 cubic meters or greater, clearly "heavy" in terms of the US perception. In January of 1976, Dr. Kissinger and General Secretary Brezhnev reached an agreement as to the definition of a "heavy" missile--one having a greater volume than that of the SS-19, i.e., one greater than 110 cubic meters. This left the SS-19 and the SS-17 ICBMs outside the proposed subceiling for "heavy" missiles which now included only the SS-9 and its replacement system, the SS-18. Aviation Week and Space Technology, in its February 27, 1978 issue, estimates that there are more than 60 SS-17's and at least 200 SS-19's deployed within the Soviet Union today. This is a figure which by itself nearly equals the proposed subceiling of 313 on "heavy" missiles.

In SALT I, the US felt that if it could limit not only the number, but also the size of ICBM launchers, then it could limit the capability of those systems. The US went so far as to reach an understanding with the Soviet Union that there could be no "significant" increases in the size of ICBM silos. A "significant" increase was agreed to mean any modification greater than 10 to 15 percent of the present dimensions of land-based ICBM silos.<sup>49</sup> Since the only index limited by the SALT I Treaty was the number of launchers, the US was obviously trying to prevent the Soviets from modifying their existing "light" silos in order to accommodate "heavier" missiles. It was believed at the time that a 10 to 15 percent limit on modifications would effectively preclude such a maneuver. The SS-17 and SS-19, in SALT I, were expected to be the follow-on systems to the SS-11 "light" ICBM. Their deployment now as "non-heavy" ICBMs in silos originally housing the SS-11 clearly is an attempt by the Soviets to increase ICBM capability without "significantly" increasing either the size or the number of ICBM silos. Through national technical means, we have been able to verify the fact that modifications to existing SS-11 silos have not exceeded the agreed limit.

The significance of this development increases when one considers the fact that both the SS-17 and the SS-18 employ a cold launch or pop-up technique. With cold launch, a missile is literally ejected from its silo (similar to SLBM launching)



by a gas generator prior to the ignition of the missile's primary booster rocket motor. In such a manner, the silo is not subjected to the collateral damage which is normally associated with the hot launch of US Minuteman III and Soviet SS-9 generation ICBMs. The resultant effect of cold launch is that the silo can be reloaded without requiring extensive repair or refurbishing to the silo itself and that a second launch from the same silo can be accomplished in a relatively short period of time.

At current levels of SS-17, - 18 and -19 deployment,<sup>50</sup> comparison of the destructive power of those three systems with that of the entire US land-based ICBM force brings to light some interesting disparities. In terms of equivalent megatonnage (MTE),<sup>51</sup> which is the best index of aggregate blast damage effects, the corresponding counterforce capability<sup>52</sup> of that MTE, which takes into account the accuracy of the missile, and the number of re-entry vehicles, which is the best index of target coverage, the Soviets have developed some rather dramatic capabilities during the period covered by SALT.

The United States has a land-based fleet of ICBMs consisting of 54 Titan II, 450 Minuteman II and 550 Minuteman III missiles with a total MTE of approximately 1000 and a corresponding counter-force capability of 11,076 all of which is carried on board 2154 re-entry vehicles (Table I). The Soviet SS-



17, -18 and -19 at current levels of deployment, which are nowhere near the allowable levels of deployment, can deliver a combined MTE of between 1406-3180<sup>53</sup> with a counter-force capability of between 26,861-46,594<sup>54</sup> carried by 2240 independently targeted re-entry vehicles, (TABLE II). Aviation Week and Space Technology, in its April 3, 1978 issue, claims that the latest generations of SS-18 and SS-19 ICBMs have been tested with guidance systems that provide an accuracy of 0.1 n.m. CEP. When this CEP is applied to the above MTE and counter-force values, the resultant value for existing SS-17, -18 and -19 counter-force capability increases to between 138,648-337,314 (TABLE II), MTE increases to 3228-5049 and the entire counter-force capability for the Soviet land-based ICBMs can go as high as 345,154 depending on the CEP and warhead yield values attributed to the various systems. Once all of the SS-9s and SS-11s are withdrawn and legally replaced by their follow-on systems (SS-17, -18 and -19), the Soviets could have an aggregate of 1233 MIRVed ICBMs with a combined MTE of between 5319-9925 and a counter-force capability which could potentially reach 896,874 (TABLE III). The resultant MIRV capability would increase to 7504 independently targeted warheads.<sup>56</sup>

An argument can be made that the ICBM fleet is only one portion of the US triad and that the MTE figures and counter-force capabilities would certainly be different if the entire

US STRATEGIC MISSILES

	NUMBER OF MISSILES DEPLOYED	NUMBER OF WAR- HEADS AND SIZE OF YIELD	TOTAL MTE FOR DEPLOYED MIS- SILES	CEP (nautical miles)	COUNTER-FORCE CAPABILITY (function of CEP)	TOTAL RE-ENTRY VEHICLES
<u>ICRMs</u>						
Titan II	54	1x9 MT	232	0.5	928	54
Minuteman II	450	1x2 MT	711	0.3	7,900	450
Minuteman III	550	3x170 KT	50.6	0.15	2,248	1650
<u>TOTAL</u>	1054		993.6		11,076	2154
<u>SLRMs</u>						
Polaris A3	160	3x200 KT	16.2	0.5	65.2	480
Poseidon C3	496	14x50 KT	93.7	0.3	1,041	6944
Trident I	0	8x100 KT	? —	0.2-0.3	? —	? —
<u>TOTAL</u>	650		109.9		1,106.2	7424
<u>GRAND TOTAL</u>	1710		1103.5		12,182.2	9578

# USSR STRATEGIC MISSILES

	NUMBER OF MISSILES DEPLOYED	NUMBER OF WAR-HEADS AND SIZE OF YIELD	TOTAL MTE FOR DEPLOYED MISSILES	CEP (nautical miles)	COUNTER-FORCE CAPABILITY (function of CEP)	TOTAL RE-ENTRY VEHICLES
55 ICBMs						
SS-9 MOD-1	208	1x25 MT	1778	0.5	7113	208
SS-11 MOD-3	660	3x100-300 KT	43.5-89.1	0.35	355-727	1980
SS-17 MOD-1	60	4x900 KT (MIRV)	22.3	0.3	248	240
SS-18 MOD-2	100	8x2 MT	1264	0.225 (0.1)-*	25,280 (126,400)	800
SS-19 MOD-1	200	6x1-2 MT	120-1896	0.3 (0.1)-*	1333-21,066 (12,000-189,600)	1200
TOTAL SLEMs	1228		3228-5049		34,329-54,434 *-(146,116-345,154)	4428
SS-N-6 MOD-1	528	1x2 MT	837	1.0	837	528
SS-N-8	380	1x1-2 MT	602	0.5	2408	380
SS-N-17	16	1x1 MT	1.6	0.25	25.6	16
SS-N-18	?	3x1-2 MT (MIRV)	?	?	?	?
TOTAL	924		1440		3270	924
GRAND TOTAL	2152		4669-6489		37,600-57,704 *-(149,386-348,424)	5352

\*-Reflects the accuracy improvements for the SS-18 and SS-19 claimed by Aviation Week and Space Technology in its April 3, 1978 issue.



# ALLOWABLE MISSILE DEPLOYMENT UNDER SALT I

NUMBER OF MISSILES DEPLOYED	TOTAL MTE FOR DEPLOYED MIS- SILES	PROJECTED COUNTER FORCE CAPABILITY OF DEPLOYED MISSILES	TOTAL RE-ENTRY VEHICLES (PVs)
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USA

ICBMs

Titan II  
Minuteman II  
Minuteman III  
(with Mk 12A)

TOTAL

SLEMs

Trident I C4

33

GRAND  
TOTAL

USSR

ICBMs

SS-17

SS-18

SS-19

TOTAL

SLEMs

SS-N-17

SS-NX-18

TOTAL

GRAND  
TOTAL

54	232	928	54
450	711	7,900	450
550	348	139,200	7,150
1054	1291	148,028	7,654
496	87.2	2,182	3,968
1550	1378.2	150,210	11,622
260	967	1,074	1,040
313	3956	79,126	2,504
660	396-5002	(395,600) \$ 4400-55,577 (39,600-500,200) \$	3,960
1233	5319-9925	84,600-135,777 (436,274-896,874)	7,504
924	1478	23,654	924
?	?	?	?
924	1478	23,654	924
2157	6797-11,403	108,254-159,431 (459,928-920,528) \$	8,428

\$ --Figures computed with O.I CEP

# STRATEGIC BOMBERS

TYPE AND NUMBER OF WEAPONS DEPLOYED	TOTAL SYSTEM MTE	CEP (nautical miles) (estimated)	COUNTER-FORCE CAPABILITY (estimated)	TOTAL NUMBER OF RE-ENTRY VEHICLES
--	---------------------	--	--	--

## USA

B-52D/G/H  
(373)

-A mixture of up to  
4x1 MT bomb (Mk 28)  
and/or  
4x=1MT variable yield  
bomb (B-61)  
and/or  
up to 20 SRAM ASMs  
each with 1x200 KT  
warhead.

7270

approx. 0.15  
(Mk 12 technology)

323,111

2058

FB-111 A

(68)

-6 SRAM

## USSR

Tu-95 Bear  
(105)

-1 Kangaroo ASM  
and/or  
1-2x1 MT bomb

1700

approx. 0.15

75,550

255

Mia-4 Bison  
(35)

-2x1 MT bomb

NOTE: No reliable unclassified information is available concerning the exact mix of weapons, their CEPs or the projected deployment of heavy bombers armed with air-launched cruise missiles (ALCM).

OVERALL COMPARATIVE TOTALS

NUMBER DEPLOYED (future)	NUMBER OF RE-ENTRY VEHICLES (future)	SYSTEM MFE (future)	COUNTER-FORCE CAPABILITY (future)
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1054 (1054)	2154 (7654)	993.6 (1291)	11,076 (148,028)
656 (496)	7427 (3968)	109.9 (87.2)	1106.2 (2182)
441 (?)	2058 (?)	7270 (?)	323,111 (?)
2151 (1717)	11,636 (=3648)	8373.5 (=8648)	335,293.2 (=473,321)
1228 (1233)	4428 (7504)	3228-5049 (5319-9925)	34,329-54,434 146,116-345,154-\$ (84,600-135,777) (436,274-896,874)-\$
924 (924)	924 (924)	1440 (1478)	3274 (23,654)
140 (?)	255 (?)	1700 (?)	75,550 (?)
2292 (2157)	5607 (8683)	6368-8189 (=3497-13,103)	113,153-133,258 224,940-423,978-\$ (=183,804-234,981) (=535,478-996,051)-\$

\$-Variance reflects the use of 0.1 CEP for the SS-18 and SS-19



strategic force was considered. Library of Congress figures, combined with those provided by Colin S. Gray, show that the United States is in possession of 2058 nuclear weapons which are to be delivered by 441 bombers (B-52D/H/G and FB-111 aircraft).<sup>57</sup> Since there is virtually no reliable unclassified information available concerning the exact mix or CEP of those weapons carried on board strategic heavy bombers for either side, I have relied on the figures provided by Richard Burt in his Summer 1974 article in Orbis where he claims that the total MTE for these weapons is 7270, while 140 Soviet bombers can deliver 250 nuclear weapons with a total MTE of only 1700.<sup>58</sup> Therefore, the counter-force capabilities shown in TABLE IV for strategic bombers are at best an approximation using minimum state-of-the-art figures for air-to-surface (ASM) missiles and air-dropped bombs. The estimates are, however, sufficient to show the relative emphasis placed on that means of delivery by either side.

From TABLE IV and V it is evident that US MTE and counter-force capability are heavily concentrated in one area of the strategic triad, bombers. In fact, 86 percent of the total MTE and 96 percent of the counter-force capability of the United States is dependent upon the strategic bomber as its primary means of delivery. Among defense planners in the West, there is a great deal of disagreement concerning the fact that ag-

gregate figures of payload and effective megatonnage carried by long-range strategic bombers do not reflect some very important qualitative factors that are peculiar to aircraft in general, i.e., expected capabilities to penetrate national defenses of probable adversaries. Due to the heavy air defenses employed by the Soviet Union, some analysts believe that deliverable US bomber payload would be only 14 percent of the total bomber payload.<sup>59</sup>

Bombers are not nearly as certain to deliver their weapons to the target as are ICBMs or SLBMs; however, when bombers can approach their targets with little or no resistance, then the certainty of payload delivery has to increase. The significance of this fact does not appear to be lost on the Soviets, nor the proportion of US throwweight, MTE and counter-force capability committed to the bomber force. Consequently, the Soviets have ringed their principle cities and industrial centers with what can only be termed massive air defense,<sup>60</sup> the capability of which was tested in part in the Peoples' Republic of Vietnam against everything modern American aviation had to offer. Considering that the successes there were achieved without the aid of effective air defense aviation assets, which the US will undoubtedly encounter during any attack of the Soviet homeland, the prospects of penetration and destruction of targets, while perhaps not as low as 14 percent, would be significantly reduced.

When the United States decided not to deploy an ABM system, reasoning that both sides had accepted the philosophy that populations were now nuclear hostages, it was also decided that if ABM was not needed, then strategic air defense also was not necessary. With the exception of a few surface-to-air missile batteries in Florida and Alaska and several interceptor squadrons assigned to the Air National Guard, the US national air defense has been totally dismantled and the mission of the North American Air Defense Command (NORAD) reduced from air defense of the United States in depth to early warning of imminent air attack.

In the area of SLBM capability, the United States has opted for the small but efficient warhead over the larger ones of the Soviet Union. The resultant comparison of strategic indexes shows that the US, theoretically, is able to launch 656 SLBMs, with 7424 independently targeted warheads, having a total MTE of 109.9 and a counter-force capability of 1106.2.<sup>61</sup> The Soviet Union, not having as yet introduced MIRV technology to its fleet of SLBMs, is able to deploy 924 missiles with a total MTE of 1455 and counter-force capability of 3270.<sup>62</sup>

SLBMs have been characterized as perhaps the least vulnerable member of the strategic triad, but they are also the least accurate and least powerful in terms of counter-force capability. The US SLBM force represent 63 percent of all



its deployable re-entry vehicles, but less than 2 percent of the total MTE and only 0.003 percent of the counter-force capability of the United States.

The Soviet Union is engaged in a major ICBM silo upgrading program in order to harden their SS-17, -18 and -19 silos to a psi resistance value of at least 2000.<sup>63</sup> Against any SS-17, -18 or -19 silo hardened to this resistance value, the single-shot kill probability of a Mk 12 (170KT) warhead of a Minuteman III ICBM would be only 25 percent. If two Mk 12 warheads were to be employed for each silo, the ceiling for high confidence avoidance of fratricide problems, then the kill probability rises to nearly 44 percent.<sup>64</sup> In view of the fact that there are approximately 860 such Soviet ICBM launchers currently in service and a potential for up to 1233 in the near future, it would require 43 percent of the Minuteman III force just to achieve the 44 percent kill probability now. That 43 percent of the Minuteman III force represents a counter-force capability of 966, only 140 less than the entire counter-force capability of the SLBM fleet. At future levels of allowable deployment for these same Soviet systems, it would require a force of Mk 12 warheads 44 percent greater than existing levels just to achieve the same kill probability. This represents a counter-force capability of 3237 or roughly three times that of the existing SLBM force. Should the US land-based ICBM force be eliminated or dramatically attrited by a Soviet first strike, the SLBM force could not be expected

to pose a formidable counter-force threat against hardened Soviet ICBM silos.

With the number of re-entry vehicles deliverable by SLBMs however, the SLBM force could theoretically pose a substantial counter-value threat to Soviet cities. But as Dr. Schlesinger pointed out, should the Soviets contemplate the knocking out of the US land-based ICBM force in the first phase of a nuclear conflict, then an American President should not be left with only the option of retaliation against Soviet cities. He should have the counter-force option of depriving the Soviets of their ICBM forces as well.

Faced with such a first strike scenario, realistically could a US President be expected to commit the SLBM force to the task of inflicting "unacceptable" damage to the Soviet Union? The Schlesinger Doctrine states that US strategic forces must be capable of flexible employment, which includes the destruction or prompt neutralization of those re-loadable ICBM silos belonging to the aggressor not destroyed in an exchange. In a counter-force capacity, manned bombers, as they are presently armed and configured, also would not suffice as they take hours to reach their targets even when armed with cruise missiles. At the very least, the manned bomber force almost certainly would suffer from significant attrition, per-



haps not the 86 percent predicted above, but at least sufficient to question the effectiveness of this delivery means in a counter-force role.

In an effort to create a verifiable index, no SALT agreement has ever limited the number of missiles, just the number of launchers associated with those missiles. In a Soviet first strike scenario, when the SLBM lack of counter-force capability is coupled with the lengthy time required for bomber and cruise missile responses, the prospect of Soviet re-use of cold launch silos has to be considered a plausible option, an option which encourages the stockpiling of ICBMs for just that purpose. Former Air Force Intelligence Chief, George Keegan, among other things has claimed that the Soviet Union has stockpiled at least 3000 more missiles than she has operational launchers. Even if the figure of 3000 is exaggerated by 100 percent, the potential that stockpiling missiles holds for tipping the strategic balance is indeed significant.

For the same reason, i.e., having a verifiable index, there has never been an agreement which limited mobile missile systems, systems where launchers would be very difficult to count. As a result, the Soviet Union has been able to deploy in the western military districts of the USSR the new SS-20 mobile IRBM, which is actually the first two stages of the new mobile ICBM, the SS-16. Deployment has only just begun for the SS-16 and there are indications that the next SALT agreement



will ban the deployment of mobile ICBMs such as the SS-16 and the US MX, which, because of its larger, more accurate warhead and mobile configuration, was intended to reduce the US fixed land-based ICBM vulnerability.

Such an agreement to limit or ban mobile ICBMs would not affect the SS-20 IRBM unless all mobile missiles, regardless of range capabilities, were to be included. The effect of SS-20 exclusion from such an agreement, when combined with silo reload, would be to allow the Soviets the capability to re-use those ICBM silos not damaged in an initial exchange, as well as the option of mating SS-16 third stages to deployed SS-20s thereby creating a completely mobile fleet of ICBMs limited in numbers only by doctrinal and budgetary constraints. This capability for the unilateral deployment of significant numbers of additional strategic missiles must be regarded as having the potential, if not countered, to seriously undermine an already questionable strategic balance.

## CONCLUSIONS

What do capabilities tell us about the Soviets? I would suggest that they tell us very little in terms of strategic intent, but tell us a great deal in terms of strategic thinking. From the Soviet sources cited, we can conclude that Soviet strategic thinking is markedly different from that in the West. The Soviet leadership, both civilian and military, has not and does not now endorse such Western concepts as assured destruction as a means of deterrence or the desirability of strategic parity as an ultimate goal. They do, however, heartily endorse the concept that relative strategic superiority is certainly much more utilitarian in terms of its political significance than is strategic parity.

Additionally, we can see from existing civil defense programs and strategic nuclear capabilities, that the Soviet Union has begun to develop operational muscle for what has to be described as a nuclear war-fighting doctrine. A war-winning capability, in terms of possessing a counter-force oriented, first strike strategic rocket force, may still be some distance away for the Soviets, but if the magnitude of existing and allowable counter-forces potential is any indication, we can expect to see the Soviets achieve that capability in the near future.

While staying within the letter of the law concerning agreements dealing with the limitation of strategic arms, the Soviets have consistently used the ambiguities and unilateral statements contained in those agreements in order to facilitate the achievement of that strategic war-winning capability. However, for the time being, the Soviet Union appears to be satisfied with the achievement of a strategic posture which would prove adequate should a conventional war break out, in terms of preventing the escalation to strategic nuclear weapons on the part of the United States.

In an apparent effort to offset the relative balance in the destructive capabilities of Soviet and American nuclear arsenals, the USSR has sought and is seeking the ability to deliver a disabling first strike against US land-based missile forces, coupled with some degree of war survivability at home in order to effectively neutralize the threat of US nuclear response to Soviet global initiatives. The resultant effect being a relatively free hand for the Soviet Union in the employment of political and economic pressure, or even conventional military force, in those parts of the world where the United States has vital interests.

The United States is not as inclined toward a war-fighting posture which emphasizes the balances between offense and defense as the Soviets appear to be. The US has forsaken any



viable program of civil defense, either for populations or agro-industrial targets, which the Soviets themselves claim are so centrally located that they facilitate destruction.<sup>65</sup> ABM and national air defenses have been so neglected, by design, that the advantage given to the Soviet Long-Range Air Force and the Strategic Rocket Forces, in terms of penetration probability, have become quite significant.

The United States must decide whether it is politically essential as well as militarily feasible to recognize the Soviet strategic posturing and then adjust the size of US forces accordingly as called for by the Schlesinger Doctrine. To do so would require, at a minimum, the immediate deployment of the new Mk 12A warhead for the Minuteman III ICBMs. Although this would increase the counter-force capability of these missiles against currently deployed Soviet fixed ICBMs, it would do little towards reducing the vulnerability of that force to a Soviet pre-emptive first strike. It is essential, therefore, unless all mobile missile systems can be banned, to continue with deployment plans for the MX mobile ICBM. Granted, such a program would open the way for further Soviet deployment of the SS-16, but, as an ICBM, mobile or not, the SS-16 could fall under the restrictions of the aggregate totals for central strategic systems. As it stands now, the MX will not be ready for deployment until the mid-1980s, and President Carter has just postponed the retrofitting of the Mk 12A until sometime in the

future.

The SALT process, in principle, is an extremely effective vehicle through which to begin to limit the threat of nuclear war between East and West, provided that neither side attempts to use those talks in order to acquire unilateral strategic advantage. Existing Soviet strategic capabilities clearly illustrate that the Soviet Union has not subscribed to that philosophy. Therefore, the United States must re-evaluate its position in SALT, vis-a-vis Soviet capabilities. Not to do so would place the US, in a very short period of time, in a position of such relative strategic inferiority that it may be impossible to recover should the national and political will so demand. For intentions are tenuous at best and can change overnight, but improving strategic military capability is a time-consuming process.



<sup>1</sup>"Brezhnev's Report to the 25th Congress of CPSU". Pravda, February 25, 1976.

<sup>2</sup>For further discussion of why the Soviet Union is interested in detente with the West, see: V. Razmerov, "Socialist International Relations," Mirovaia Ekonomika i Mizhdunarodnye Otnosheniia (hereafter, World Economics and International Relations), No. 12, December, 1974, p. 13; "The Dialectics of International Detente," Problemy Mira i Sotsializma (hereafter Problems of Peace and Socialism), No. 9, September, 1974, pp. 83-86.

<sup>3</sup>Brezhnev, L.II, Pravda, December 22, 1972.

<sup>4</sup>Bovin, A., "Peace and Social Progress, Izvestiia, September 11, 1973.

<sup>5</sup>Shakhnazarov, G., "On the Problem of Correlation of Forces in the World, Kommunist, No. 3, February, 1974.

<sup>6</sup>Ryzhenko, F., "Peaceful Coexistence and the Class Struggle," Pravda, August 22, 1973.

<sup>7</sup>Bovin, A., "A Clear and Dynamic Policy," Izvestiia, November 6, 1975.

<sup>8</sup>Garthoff, Raymond L., "Correspondence," Problems of Communism, September-October, 1977, p. 104.

<sup>9</sup>Sokolovskii, Marshal V.D., Soviet Military Strategy Moscow, 1968, p. 295.

<sup>10</sup>Methodologicheskie Problemy Voennoi Teorii i Praktiki (hereafter, Methodological Problems of Military Theory and Practice), Ministry of Defense, Moscow, 1969, p. 288.

<sup>11</sup>For a further discussion of the debate over the viability of nuclear war as an extension of policy, see: Shelyag, Rear Admiral Professor, "Two World Outlooks--Two Views on War," Krasnaia Zvezda (hereafter, Red Star), February 7, 1974; Maltsev, General of the Army, "Lenin's ideas on the Defense of Socialism," Red Star, February 14, 1974; Ribkin, Colonel E., "Leninist Conception of War and the Present," Kommunist Vooruzhennykh Sil (hereafter, Communist of the Armed Forces), No. 20, October 1973, pp. 21-28. For the Opposing view of this debate, see: Arbatov, G.A., Problems of Peace and Socialism, No. 2, February, 1974, p. 41; Mil'shtein, M.A.



and Semeiko, SSha; Ekonomika, Politika, Ideologiya (hereafter USA: Economics Politics, Ideology), No. 12, December, 1973, pp. 3-12; Tropfimenko, G.A., USA Economics, Politics Ideology, No. 2, February 1974, p. 17.

<sup>12</sup>For some representative views by the authors as to why they reject the doctrine of mutually assured destruction (MAD), see: Arbatov, G.A., "The Empass of the Policy of Force," Problems of Peace and Socialism, No. 2, February, 1974; Inozemtsev, N.N., Pravda, June 9, 1972.

<sup>13</sup>Karabanov, N.V., Filosofskoe Nasledie V.I. Lenin i Problemy Sovremenoi Voyny (hereafter Philosophical Heritage of V.I. Lenin and the Problems of Contemporary War, Moscow, 1972, pp. 18-19.

<sup>14</sup>Communist of the Armed Forces, November 22, 1975, p. 16.

<sup>15</sup>Kulikov, Marshal of the Soviet Union, "Brain of the Army", Pravda, November 13, 1974.

<sup>16</sup>Grechko, A.A., Na Strazhe Mira i Stroitel'stva Kommunizma, (Safeguarding Peace and the Building of Socialism), Moscow, 1971, p. 41.

<sup>17</sup>Sokolovskii, Op cit. p. 21.

<sup>18</sup>For a representative article on the Soviet concept of the correlation of forces, see: Shakhnazyrov, G., Kommunist, No. 3, February, 1974, pp. 77-89.

<sup>19</sup>Trofimenko, G.A., "Away from a policy of Confrontation Toward a Policy of Coexistence," Mezhdunarodnaia Zhizn' hereafter (International Life), No. 9, September, 1975 pp. 37-46.

<sup>20</sup>Grechko, A.A., Voprosy Istorii KPSS (Question of the History of the CPSU), No. 5, May, 1974, p. 37.

<sup>21</sup>Sokolovskii, Op cit., p. 292.

<sup>22</sup>Grechko, A.A., Vooruzhennye Sily Sovetskogo Gosudarstva (Armed Forces of the Soviet State), Moscow, 1975, p. 345.

<sup>23</sup>Garthoff, Op cit.

<sup>24</sup>Grechko, A.A., Pravda, September 30, 1972.

<sup>25</sup>McNamara, Robert, Statement Before the Senate Armed Services Committee on the FY 1969-1973 Defense Program and the 1969 Defense Budget, Washington, D.C., USGPO, January 22, 1968, p. 50.

<sup>26</sup>Goure, Leon, War Survival in Soviet Strategy, Miami (Fla.) Center for Advanced International Studies, 1976, p. 5.

<sup>27</sup>Ibid. p. 36.

<sup>28</sup>Ibid. p. 5.

<sup>29</sup>Schlesinger, James, Statement Before the Senate Armed Services Committee on the FY 1975 Defense Program and the FY 1975 Defense Budget, (hereafter Schlesinger Testimony), USGPO, Washington, D.C., March, 1974 pp. 1-2; and FY 1975 Defense Program and the 1975 Defense Budget, (hereafter Schlesinger FY 1975 Report), USGPO, Washington, D.C., 1974, pp. 26, 30, 41, 44.

<sup>30</sup>Schlesinger FY 1975 Report, pp. 4, 5, 38.

<sup>31</sup>Schlesinger Testimony, p. 9.

<sup>32</sup>Ibid., p. 55.

<sup>33</sup>Ibid., pp. 42, 55.

<sup>34</sup>Ibid., p. 7.

<sup>35</sup>Schlesinger FY 1975 Report, pp. 26, 43.

<sup>36</sup>Ibid., p. 43.

<sup>37</sup>Ibid., pp. 52-55.

<sup>38</sup>Schlesinger Testimony, p. 18.

<sup>39</sup>Ibid., p. 18; and Schlesinger FY 1975 Report, p. 42.

<sup>40</sup>Chuikov, Marshal V.I., Grazhdanskaia Oborona v Raketno-Iadernoi Voine, (Civil Defense in Rocket-Nuclear War), Moscow, 1969, p. 13.



<sup>41</sup>Perhaps one of the best treatments of this topic appears in Leon Goure, *Op cit.*

<sup>42</sup>Shuvyrin, Lt-Gen. D.I., "A Reliable and Effective System," Voennye Znaniia (hereafter, Military Knowledge), No. 10, October, 1968, p. 17.

<sup>43</sup>It should be kept in mind that no agreement thus far has succeeded in limiting mobile missile system, regardless of their range. Therefore the figures cited consider only fixed ICBM launchers.

<sup>44</sup>Van Cleave, W. "Political and Negotiating Asymmetries: Insult in SALT I," Contrasting Approaches to Strategic Arms Control, Robert L. Plaltzgraff, Jr., ed., 1974, p. 20.

<sup>45</sup>Examples of this type of reasoning can be found in: USA; Economics, Politics, Ideology, No. 12, December, 1973, p. 7; No. 2, February, 1974, p. 13; Larionov, V.V., Pravda, April 7, 1974; Karenin, Mezhdunarodnaia Otnosheniia (hereafter International Relations), No. 9, September, 1974, p. 15.

<sup>46</sup>Department of State Bulletin, LXVII, July 1, 1972, p. 48.

<sup>47</sup>Gray, Colin S., "The Future of Land-Based Missile Forces," Adelphi Papers, No. 14, Winter 1977, p. 33.

<sup>48</sup>*Ibid.*, p. 35.

<sup>49</sup>Plaltzgraff, Robert L. Jr., Contrasting Approaches to Strategic Arms Control, 1974, p. 319.

<sup>50</sup>Figures on the number and capabilities of the strategic systems deployed have been derived from both official and unofficial sources. The unofficial sources include Colin S. Gray, *Op cit.*, Richard Burt, Orbis, Summer 1974, and Aviation Week and Space Technology, February 27, 1978 and April 3, 1978.

<sup>51</sup>Equivalent megatonnage is a measurement of the explosive yield of a nuclear weapon. This megaton equivalent (MTE) is expressed as the explosive yield of the weapon raised to the two-thirds power, or  $y^{2/3}$ . The formula illustrates the fact that the destructive power of a nuclear weapon does not increase in direct proportion with corresponding increases in the yield of the weapon.



<sup>52</sup>Colin S. Gray, op cit. p. 11, states that the standard simplified counter-force formula  $K=y^{2/3}$  illustrates, as a rough rule, that an improvement in the accuracy (CEP) of a nuclear weapon, say of 50 percent, is equivalent in terms of counter-force effectiveness of an eight-fold increase in the yield of that weapon. TABLE II illustrates the effect of such an accuracy improvement on Soviet SS-18s and 19s.

<sup>53</sup>The variance here reflects the fact that the size of the warhead deployed on the SS-19 is estimated to be between 1 and 2 megatons. The figures have been determined using first 1 MT and then 2 MT as the warhead size.

<sup>54</sup>Ibid.

<sup>55</sup>Unless otherwise stated, all Soviet ICBMs are assumed to be deployed in the MIRV configuration. As per agreement between the US and the USSR, once a missile system has been tested with a MIRVed warhead, all launchers associated with that missile will be considered in the overall MIRV limit.

<sup>56</sup>Future SALT agreements will probably include a ceiling of approximately 1320 on the number of MIRVed ICBMs and SLBMs. To date, the Soviets have not deployed any MIRV SLBMs. Of the three most recently developed SLBMs, only the SS-NX-18 has a MIRV capability. In calculating the above MTE values for these systems, it is assumed that the remaining SS-11 force of approximately 660 launchers will be replaced by 200 SS-17s MOD 1 and 460 SS-19s MOD 1. The approximately 208 remaining SS-9s will probably be replaced by the SS-18 MOD 2. Such a deployment would still leave the Soviets approximately 100 MIRVed missile systems to be deployed on either SSBNs or heavy bombers armed with cruise missiles.

<sup>57</sup>Quoted in Aviation Week and Space Technology, April 18, 1977, p. 19.

<sup>58</sup>Soviet long-range bombers include the Tu-95 Bear and the MiG-31 Foxhound of which there are 140. The Backfire bomber is not included in these estimates as it appears that it will not be included in the SALT II agreement.

<sup>59</sup>Davis, Lehman and Wessell, SALT II and the Search for Strategic Equivalence, Foreign Policy Research Institute Monograph Series, No. 19, 1975, p. 15.

<sup>60</sup>As of June 1976, the Library of Congress, in its study "US-USSR Military Balance," p. 25, credits the USSR with having 9500 SAM launchers and 2700 interceptor aircraft.

<sup>61</sup>Assumes 160 Polaris A3 SLBMs each with three 200 KT warheads and 496 Poseidon C2 SLBMs each with fourteen 50 KT warheads for a total MTE of 109.9 and a corresponding counterforce capability of 1106.2 delivered by 7424 re-entry vehicles.

<sup>62</sup>As indicated in TABLE II, this assumes 528 SS-N-6 SLBMs on 33 Y-class submarines, each with one 2 MT warhead; 156 SS-N-8 SLBMs on 13 "Delta-1" submarines and 224 on board 14 "Delta-2" submarines each with a single 2 MT warhead. One Y-class submarine has been fitted with 16 SS-N-17 solid-propellant SLBMs, each with a 1 MT warhead. It is believed that an additional 4 "Delta-3" submarines--the Soviet equivalent of the US Trident class--are currently undergoing sea trials, but these have not been included in the above figures.

<sup>63</sup>Gray, Colin S., op cit., p. 12.

<sup>64</sup>Ibid.

<sup>65</sup>See, for example: Military Knowledge, No. 10, October 1972, p. 27; Communist of the Armed Forces, No. 14, July 1975, p. 70.